

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY (Chapter II of the Patent Cooperation Treaty) (PCT Article 36 and Rule 70)

Applicant's or agent's file reference P205-0047WO	<b>FOR FURTHER ACTION</b>	See Form PCT/IPEA/416
International application No. PCT/JP2005/003824	International filing date (day/month/year) 01.03.2005	Priority date (day/month/year) 03.03.2004
International Patent Classification (IPC) or national classification and IPC Int.Cl. H04N1/41 (2006.01)		
Applicant CANON KABUSHIKI KAISHA		

1.	This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of <u>6</u> sheets, including this cover sheet.
3.	This report is also accompanied by ANNEXES, comprising: <div style="margin-left: 20px;"> a. <input checked="" type="checkbox"/> a total of <u>7</u> sheets, as follows: <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. </div> </div>
4.	This report contains indications relating to the following items: <div style="margin-left: 20px;"> <input checked="" type="checkbox"/> Box No. I Basis of the report  <input type="checkbox"/> Box No. II Priority  <input checked="" type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability  <input type="checkbox"/> Box No. IV Lack of unity of invention  <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement  <input checked="" type="checkbox"/> Box No. VI Certain documents cited  <input type="checkbox"/> Box No. VII Certain defects in the international application  <input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application </div>

Date of submission of the demand 28.12.2005	Date of completion of this report 22.06.2006
Name and mailing address of the IPEA/JP  <b>Japan Patent Office</b> 3-4-3, Kasumigaseki, Chiyoda-ku, Tokyo 100-8915, Japan	Authorized officer Minoru MATSUNAGA Telephone No. +81-3-3581-1101 Ext. 3571

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2005/003824

**Box No. I**      **Basis of the report**1. With regard to the **language**, this report is based on:

- ☒ the international application in the language in which it was filed
- ☐ a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of:
- ☐ international search (Rules 12.3(a) and 23.1(b))
- ☐ publication of the international application (Rule 12.4(a))
- ☐ international preliminary examination (Rules 55.2(a) and/or 55.3(a))

2. With regard to the **elements** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-28 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- Nos. 2-4, 6, 8-10, 12, 14-16 \_\_\_\_\_ as originally filed/furnished
- Nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- Nos.\* 1, 5, 7, 11, 13, 17 received by this Authority on 2006.01.25
- Nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- figs 1-5 \_\_\_\_\_ as originally filed/furnished
- sheets/figs \* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets/figs \* \_\_\_\_\_ received by this Authority on \_\_\_\_\_

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (*specify*): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (*specify*): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

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**Box No. III      Non-establishment of opinion with regard to novelty, inventive step and industrial applicability**

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application

☒ claims Nos. 5, 6, 11, 12 and 17

because:

☐ the said international application, or the said claims Nos. \_\_\_\_\_  
relate to the following subject matter which does not require an international preliminary examination (*specify*):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. \_\_\_\_\_  
are so unclear that no meaningful opinion could be formed (*specify*):

☒ the claims, or said claims Nos. 5, 6, 11, 12 and 17 are so inadequately supported  
by the description that no meaningful opinion could be formed (*specify*):

See Box No. VIII

☐ no international search report has been established for said claims Nos. \_\_\_\_\_

☐ a meaningful opinion could not be formed without the sequence listing; the applicant did not, within the prescribed time limit:

☐ furnish a sequence listing on paper complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Preliminary Examining Authority in a form and manner acceptable to it.

☐ furnish a sequence listing in electronic form complying with the standard provided for in Annex C of the Administrative Instructions, and such listing was not available to the International Preliminary Examining Authority in a form and manner acceptable to it.

☐ pay the required late furnishing fee for the furnishing of a sequence listing in response to an invitation under Rules 13*ter*.1(a) or (b) and 13*ter*.2.

☐ a meaningful opinion could not be formed without the tables related to the sequence listings; the applicant did not, within the prescribed time limit, furnish such tables in electronic form complying with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions, and such tables were not available to the International Preliminary Examining Authority in a form and manner acceptable to it.

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in electronic form only, do not comply with the technical requirements provided for in Annex C-*bis* of the Administrative Instructions.

☐ See Supplemental Box for further details.

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## 1. Statement

Novelty (N)	Claims	1-4, 7-10, 13-16	YES
	Claims		NO
Inventive step (IS)	Claims	1-4, 7-10, 13-16	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-4, 7-10, 13-16	YES
	Claims		NO

D1:JP 6-291991 A

D2:JP 2001-27986 A

D3:JP 2005-72831 A (MINOLTA CO LTD) 2005.3.17& US2005/57778 A see Box No. VI

The subject matter of claim 1, 7 and 13 are neither disclosed in any of the documents above, nor obvious to a person skilled in the art.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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**Box No. VI**      **Certain documents cited**

## 1.    Certain published documents (Rules 70.10)

<u>Application No. Patent No.</u>	<u>Publication date (day/month/year)</u>	<u>Filing date (day/month/year)</u>	<u>Priority date (valid claim) (day/month/year)</u>
JP 2003-298383 [E A]	17.03.2005	22.08.2003	

## 2.    Non-written disclosures (Rules 70.9)

<u>Kind of non-written disclosure</u>	<u>Date of non-written disclosure (day/month/year)</u>	<u>Date of written disclosure referring to non-written disclosure (day/month/year)</u>
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**Box No. VIII Certain observations on the international application**

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

“For example, although the code processing unit 310a is provided exclusively for the scanner 301, the actual processing is executed by any of the hardware chips and not by software. The same holds true for the scanner 301 in regard to the code processing unit 310b exclusively for the printer 302. Accordingly, in a case where processing of data that has been read in by the scanner and processing of data necessary when print processing is executed conflict in the JBIG encoder/decoder chip 402 as when copying is performed, whichever processing request was earliest is processed first. It should be noted that since processing speed using hardware is must faster than that using software, waiting time is very short” (DESCRIPTION page 17, line 7-20)

With reference to Fig.4, the JBIG encoder/decoder chip 402 is shared between the task by scanner 301 and printer 302, both of which has a high priority.

It is contradictory to the subject matter of claim 1 indirectly quoted by claim 5, 6 as well as claim 7 quoted by claim 11, 12, and 17.

Therefore, claim 5, 6, 11, 12 and 17 are not supported by the description as required by Article 6 PCT.

IPEA/JP 25.1.2006

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## CLAIMS

1. (Amended) An image processing apparatus comprising:

a plurality of code converting units for  
executing coding and decoding of image data;

5 a plurality of request-source task units for  
requesting any of said plurality of code converting  
units to perform a code conversion of image data, the  
number of task units being greater than the number of  
code converting units and having priorities that  
10 depend on their respective tasks; and

an assigning unit for assigning one of said  
plurality of code converting units to a processing  
request from one of said plurality of request-source  
task units having a high priority and, if there is an  
15 idle code converting unit among the plurality of code  
converting units, assigning the idle code converting  
unit to a processing request from one of said  
plurality of request-source task units having a low  
priority.

20 2. The apparatus according to claim 1, wherein said  
code converting units have one-to-one correspondence  
to the request-source task units having the high  
priority; and

said assigning unit assigns the corresponding  
25 code processing units in accordance with the  
processing requests from the request-source task units  
having the high priority.

3. The apparatus according to claim 1 or 2, wherein  
code converting units, the number of which is smaller  
than the number of the request-source task units  
having the low priority, correspond to these request-  
5 source task units having the low priority; and

said assigning unit assigns said code converting  
units in a prescribed order to the processing requests  
from the request-source task units having the low  
priority.

10 4. The apparatus according to claim 3, wherein said  
code converting units are constituted by software-  
implemented code converting units for executing code  
conversion by software and hardware-implemented code  
converting units for executing code conversion by  
15 hardware; and

said assigning unit assigns said software-  
implemented code converting units to the processing  
requests of the request-source task units.

5. (Amended) The apparatus according to claim 4,  
20 wherein said request-source task units having the high  
priority are classified into a first unit group  
processed by said software-implemented code converting  
units and a second unit group processed by said  
hardware-implemented code converting units via said  
25 software-implemented code converting units.

6. The apparatus according to claim 5, wherein said  
hardware-implemented code converting units are adapted



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so as to be used jointly by the request-source task units of said second unit group.

7. (Amended) An image processing method comprising:

a processing-request issuing step of issuing a  
5 processing request to a code converting unit by any  
request-source task unit of a plurality of request-  
source task units the number of which is greater than  
the number of a plurality of code converting units and  
having priorities that depend on their respective tasks,  
10 said code converting units executing coding and  
decoding of image data;

a priority processing determination step of  
receiving the processing request and determining  
whether the processing request issued by the request-  
15 source task unit should be processed with priority;  
and

an assigning step of assigning one of said  
plurality of code converting units to a processing  
request from one of said plurality of request-source  
20 task units determined to have a high priority and, if  
there is an idle code processing unit among the code  
converting units, assigning the idle code processing  
unit to a processing request from one of said  
plurality of request-source task units determined to  
25 have a low priority.

8. The method according to claim 7, wherein said code  
converting units have one-to-one correspondence to the

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request-source task units having the high priority;  
and

said assigning step assigns the corresponding  
code processing units in accordance with the  
5 processing requests from the request-source task units  
having the high priority.

9. The method according to claim 7 or 8, wherein code  
converting units, the number of which is smaller than  
the number of the request-source task units having the  
10 low priority, correspond to these request-source task  
units having the low priority; and

said assigning step assigns said code converting  
units in a prescribed order to the processing requests  
from the request-source task units having the low  
15 priority.

10. The method according to claim 9, wherein said  
code converting units are constituted by software-  
implemented code converting units for executing code  
conversion by software and hardware-implemented code  
20 converting units for executing code conversion by  
hardware; and

said assigning step assigns said software-  
implemented code converting units to the processing  
requests of the request-source task units.  
25 11. (Amended) The method according to claim 10,  
wherein said request-source task units having the high  
priority are classified into a first unit group

processed by said software-implemented code converting units and a second unit group processed by said hardware-implemented code converting units via said software-implemented code converting units.

5 12. The method according to claim 11, wherein said hardware-implemented code converting units are adapted so as to be used jointly by the request-source task units of said second unit group.

13. (Amended) An image processing program comprising:  
10 program code for executing a processing-request issuing step of issuing a processing request to a code converting unit by any request-source task unit of a plurality of request-source task units the number of which is greater than the number of a plurality of  
15 code converting units and having priorities that depend on their respective tasks, said code converting units executing coding and decoding of image data;

program code for executing a priority processing determination step of receiving the processing request  
20 and determining whether the processing request issued by the request-source task unit should be processed with priority; and

program code for executing an assigning step of assigning one of said code converting units to a  
25 processing request from one of said plurality of request-source task units determined to have a high priority and, if there is an idle code processing unit

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among the code converting units, assigning the idle code processing unit to a processing request from one of said plurality of request-source task units determined to have a low priority.

- 5 14. The program according to claim 13, wherein said code converting units have one-to-one correspondence to the request-source task units having the high priority; and

the program code for executing said assigning  
10 step includes code for assigning the corresponding code processing units in accordance with the processing requests from the request-source task units having the high priority.

- 15 15. The program according to claim 7 or 8, wherein code converting units, the number of which is smaller than the number of the request-source task units having the low priority, correspond to these request-source task units having the low priority; and

the program code for executing said assigning  
20 step includes code for assigning said code converting units in a prescribed order to the processing requests from the request-source task units having the low priority.

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16. The program according to claim 15, wherein said  
code converting units are constituted by software-  
implemented code converting units for executing code  
conversion by software and hardware-implemented code  
5 converting units for executing code conversion by  
hardware; and

the program code for executing said assigning  
step includes code for assigning said software-  
implemented code converting units to the processing  
10 requests of the request-source task units.

17. (Amended) The program according to claim 16,  
wherein said request-source task units having the high  
priority are classified into a first unit group  
processed by said software-implemented code converting  
15 units and a second unit group processed by said  
hardware-implemented code converting units via said  
software-implemented code converting units.